

## LIST OF PREPARERS

Name	Degree	Responsibility	Experience
<b>U.S. Department of Energy</b>			
Andrew R. Grainger	M.S., Wildlife Ecology, 1978 B.S., Natural Resources, 1975	NEPA Compliance Officer, NEPA Specialist for the EIS	12 years preparing NEPA documents; 18 years in terrestrial ecology, facility siting, wetlands ecology, endangered species
Richard Rustad	M.S., Nuclear Engineering, 1990 B.S., Physics, 1977	Document Manager for APT EIS. Principal reviewer for DOE.	4 years preparing NEPA documents; 22 years in nuclear navy and commercial nuclear power
Eric Schweitzer	M.U.R.P., Urban and Regional Planning, 1971 B.A., Geography, 1969	DP-61, APT Environmental Health and Safety Manager	15 years preparing and managing NEPA documents; 25 years land use and socioeconomic analyses
<b>Halliburton NUS Corporation</b>			
Yvonne F. Abernethy	M.S., Forest Management and Economics, 1984 B.S., Forest Management, 1979	Terrestrial and wetland ecology; threatened and endangered species	4 years preparing NEPA documents; 13 years in natural resource management and environmental planning
William J. Craig	M.S., Planning, 1977 B.S., Forestry, 1972	Project Manager for HNUS	10 years preparing NEPA documents; 20 years utility fuel planning and powerplant siting
Mary N. Hoganson	M.S., Biology, 1989 B.S., Biology, 1984	Waste management	4 years preparing NEPA documents; 12 years in waste management and waste minimization
Philip R. Moore	M.S., Wildlife & Fisheries Biology, 1983 B.A., English, 1975	Aquatic ecology	8 years preparing NEPA documents; 17 years as fishery biologist and aquatic ecologist

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Name	Degree	Responsibility	Experience
Diane S. Sinkowski, CHMM	M.E., Environmental Engineering, 1994 B.S., Nuclear Engineering Sciences, 1990	Air quality, human health, and traffic and transportation	3 years preparing NEPA documents; 6 years in air permitting, fate and transport modeling, human health impacts, environmental compliance, and health physics
James S. Willison, PE, CHP	M.S., Nuclear Engineering, 1982 B.S., Nuclear Engineering, 1980	Accident analysis, health physics	2 years preparing NEPA documents; 13 years of accident analyses at nuclear facilities; health physics and radiological engineering

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## GLOSSARY

**Note:** Glossary terms have been retained in this document only when relating to topics changed in this final APT EIS.

*accelerator*

A device that accelerates charged particles (e.g., electrons or protons) to high velocities so they have high kinetic energy (i.e., the energy associated with motion); it focuses the charged particles into a beam and directs them against a *target*.

*blanket*

That part of an *accelerator* that contains feedstock atoms that undergo a nuclear reaction to absorb *neutrons*, resulting (in the case of this EIS) in the production of a *tritium* atom and another (byproduct) atom.

*blowdown*

Water discharged intentionally from a cooling tower system because of relatively high concentrations of salts.

*commercial light-water reactor*

A reactor that uses regular water as the neutron moderator. Commercial reactors are owned and operated by utilities to produce electricity for consumers.

*committed dose equivalent*

The calculated dose equivalent received by a tissue or organ during the 50-year period after a *radionuclide* is introduced in the body.

*committed effective dose equivalent*

The sum of the *committed dose equivalents* to various tissues/organs in the body multiplied by their appropriate tissue weighting factor. Equivalent in effect to a uniform external dose of the same value.

*conceptual design*

Name for the process to develop a facility that will meet program goals while ensuring feasible and attainable performance levels; develop project criteria and design parameters for all engineering disciplines; and identify applicable codes and standards, quality assurance requirements, environmental studies, construction materials, space allowances, energy conservation features, health and safety safeguards, security requirements, and other features or requirements necessary to describe the project.

*cooling water*

Water pumped into a nuclear reactor or *accelerator* to cool components and prevent damage from the intense heat generated when the reactor or accelerator is operating.

*cryogenics*

The science of physical phenomena at very low temperatures, approaching absolute zero.

*cumulative impacts*

Impacts on the environment, including additive ecological, health, or socioeconomic effects that result from the addition of the impact of the proposed action to impacts from other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes the other actions (40 CFR 1508.7).

*cryogenic distillation*

A process where differences in the boiling points of hydrogen and tritium are used to separate the two isotopes. The process takes place at extremely cold temperatures. See also *cryogenics*.

*decay (radioactive)*

The spontaneous transformation of one *nuclide* into a different nuclide or into a different energy state of the same nuclide. The process results in the emission of nuclear *radiation*.

*decisionmaker*

Group or individual responsible for making a decision on constructing and operating an *accelerator* to produce *tritium* at the Savannah River Site. Decisionmakers include DOE officials specified in DOE Order 451.1A; elected officials; Federal, state, and local agency representatives; and the public.

*decoupler*

That part of an *accelerator* between the high-energy neutron source and the moderating blanket that contains *feedstock material* that will absorb low-energy *neutrons* and help protect the neutron source.

*deinventory*

Packaging unused nuclear materials and placing them in storage on the SRS or at their source.

*design-basis accident*

For nuclear facilities, a postulated abnormal event used to establish the performance requirements of structures, systems, and components to (1) maintain them in a safe shutdown condition indefinitely or (2) prevent or mitigate the consequences of an accident so that the general public and operating staff are not exposed to radiation in excess of appropriate guideline values. Normally, a design-basis accident is the accident that causes the most severe consequences when engineered safety features function as intended.

*design-basis events*

Postulated disturbances in process variables that can potentially lead to *design-basis accidents*.

*dose*

The energy imparted to matter by *ionizing radiation*. The unit of absorbed dose is the *rad*, which is equal to 0.01 joule per kilogram of irradiated material in any medium.

*dose equivalent*

A term used to express the amount of effective *radiation* when modifying factors have been considered. It is the product of absorbed dose (*rads*) multiplied by a quality factor and other modifying factors. It is measured in *rem* (Roentgen equivalent man).

*drift*

Mist or spray carried into the atmosphere with the effluent air vapor from a cooling tower.

*ecosystem*

The community of living things and the physical environment in which they live.

*effluent*

A liquid or airborne material released to the environment; in common usage, a liquid release.

*effluent monitoring*

The collection and analysis of samples or measurements of liquid and gaseous effluents to characterize and quantify contaminants, assess *radiation exposure* to members of the public, and demonstrate compliance with applicable standards; occurs at the point of discharge, such as an air stack or drainage pipe.

*EIS (environmental impact statement)*

A legal document required by the National Environmental Policy Act (NEPA) of 1969, as amended, for Federal actions involving significant or potentially significant environmental impacts. A tool for decisionmaking, it describes the positive and negative impacts of the proposed action and the alternative actions.

*emission standards*

Legally enforceable limits on the quantities and kinds of air contaminants that may be emitted to the atmosphere.

*entrainment*

The capture and inclusion of organisms in the cooling water systems of such facilities as *reactors* and *accelerators*. The organisms involved, which would depend on size of the intake screen opening, include phyto- and zooplankton, fish eggs and larvae (ichthyoplankton), shellfish larvae, and other forms of aquatic life.

*environmental surveillance*

The collection and analysis of samples of air, water, soil, foodstuffs, biota, and other media and the measurement of external *radiation* to demonstrate compliance with applicable standards, assess radiation exposures to members of the public, and assess effects, if any, on the local environment.

*exposure (to radiation)*

The incidence of *radiation* on living or inanimate material by accident or intent. Background exposure is the exposure to natural background ionizing radiation. Occupational exposure is the exposure to ionizing radiation that occurs during a person's working hours. Population exposure is the exposure to a number of persons who inhabit an area.

*extrusion press*

A device in which heated or unheated material is forced through a shaping orifice to become one continuously formed piece.

*fallout*

The descent to earth and deposition on the ground of particulate matter (usually *radioactive*) from the atmosphere.

*feedstock material*

Neutron-absorbing material in the target/blanket structure that is transformed by neutron absorption into the desired product (e.g., tritium).

*getter*

The material that collects the tritium produced by neutron absorption.

*greater-than-Class-C waste*

See *waste classifications*.

*grid*

A transmission and distribution system for electric power.

*half-life (radiological)*

The time in which half the atoms of a *radioactive* substance disintegrate to another nuclear form. Half-lives vary from millionths of a second to billions of years.

*hazardous waste*

See *waste classifications*.

*heavy-water*

Water in which the hydrogen of the water molecule consists entirely of the heavy hydrogen isotope having a mass number of 2; also called deuterium oxide (D<sub>2</sub>O).

*heavy water reactor*

A nuclear reactor in which *heavy water* serves as a neutron moderator and sometimes as a coolant.

*high-level waste*

See *waste classifications*.

*impingement*

The process by which aquatic organisms too large to pass through the screen of a water intake system become trapped against the screens and are unable to escape.

*inductive output tube*

A device designed to amplify microwaves in a manner different from that in a *klystron*. The *electron* beam current varies depending on the microwave signal. In addition, it is typically smaller than a *klystron* and has greater efficiency, providing the same microwave amplification with less energy.

*infrastructure*

The system of public works of a county, state, or region; also, the resources (buildings or equipment) required for an activity.

*in situ*

In or at the natural or original position or location.

*ion*

An atom or molecule that has gained or lost one or more electrons to become electrically charged.

*ionizing radiation*

Radiation capable of displacing electrons from atoms or molecules to produce ions.

*irradiation*

Exposure to *radiation*.

*isotope*

An atom of a chemical element with a specific atomic number and atomic mass. Isotopes of the same element have the same number of *protons* but different number of *neutrons*. Isotopes are identified by the name of the element and the total number of protons and neutrons in the nucleus. For example, plutonium-239 is a plutonium atom (94 protons) with 145 neutrons, for a total of 239.

*klystron*

An electron tube used for the amplification of microwaves (see *radiofrequency power tube*).

*latent cancer fatalities*

Deaths resulting from cancer that became active sometime after the exposure to the carcinogen that induced the cancer. The delay between exposure and cancer development is known as the latent period.

*laydown*

Area of construction site used to sort and store construction materials.

*light water*

Ordinary water containing hydrogen atoms with no neutrons in their nucleus.

*light-water reactor*

A nuclear *reactor* that uses ordinary water to cool the reactor core and to moderate (reduce the energy of) the *neutrons* created in the core by fission reactions.

*Linac*

Linear accelerator.

*low-income community*

A community in which 25 percent or more of the population is identified as living in poverty.

*low-level waste*

See *waste classifications*.

*makeup water*

Replacement for water lost through *drift*, blowdown, or evaporation (as in a cooling tower).

*maximally exposed individual*

A hypothetical member of the public who receives the maximum possible *dose equivalent* from a given exposure scenario.

*MeV* (million electron-volts)

A unit used to quantify energy. In this EIS, it describes a particle's kinetic energy, which is an indicator of particle speed.

*millirem*

One thousandth of a *rem*. (See *rem*.)

*mixed waste*

See *waste classifications*.

*National Ambient Air Quality Standards*

Air quality standards established by the Clean Air Act, as amended. The primary National Ambient Air Quality Standards are intended to provide the public with an adequate margin of safety, and the secondary National Ambient Air Quality Standards are intended to protect the public from known or anticipated adverse impacts of a pollutant.

*National Pollutant Discharge Elimination System*

Federal system that permits for liquid effluents regulated through the Clean Water Act, as amended.

*neutron*

An uncharged nuclear particle that has a mass approximately the same as that of a *proton*; it is present in all atomic nuclei except that of hydrogen-1. A free neutron is unstable and decays with a half-life of about 13 minutes into an electron and a proton.

*nuclide*

An atomic *nucleus* specified by atomic weight, atomic number, and energy state; a *radionuclide* is a radioactive nuclide.

*Occupational Safety and Health Administration*

Federal agency responsible for oversight and regulation of workplace health and safety.

*oxides of nitrogen (NO<sub>x</sub>)*

Primarily nitrogen oxide (NO) and nitrogen dioxide (NO<sub>2</sub>), these compounds are produced in the combustion of fossil fuels, and can constitute an air pollution problem.

*ozone*

A compound of oxygen in which three oxygen atoms are chemically attached to each other. Ozone is an air pollutant.

*person-rem*

The measure of radiation dose commitment to a specific population; the sum of the individual doses received by a population segment.

*pH*

A measure of the hydrogen ion concentration in aqueous (made from, with, or by water) solution. Pure water has a pH of 7, acidic solutions have a pH less than 7, and basic solutions have a pH greater than 7.

*proton*

A nuclear particle with a positive charge equal in magnitude to the negative charge of the electron; it is a constituent of all atomic nuclei, and the atomic number of an element indicates the number of protons in the nucleus of each atom of that element.



*radiation*

The emitted particles and photons from the nuclei of *radioactive* atoms; a short term for *ionizing radiation* or nuclear radiation, which are different from nonionizing radiation such as microwaves, ultraviolet rays, etc.

*radioactivity*

The spontaneous decay of unstable atomic nuclei accompanied by the emission of *radiation*.

*radiofrequency power tube*

An established technology that radar installations and television broadcast stations use to generate broadcast signals. It uses a beam of electrons to amplify a microwave signal.

*radiological*

Related to *ionizing radiation*.

*radionuclide*

See *nuclide*.

*reactor*

A device or apparatus in which a chain reaction of fissionable material is initiated and controlled; a nuclear reactor.

*Record of Decision (ROD)*

A document that provides a concise public record of an agency decision on a proposed action for which it prepared an EIS. An ROD identifies the alternatives considered in reaching the decision, the environmentally preferable alternative(s), factors the agency balanced in making the decision, and whether the agency has adopted all practicable means to avoid or minimize environmental harm and if not, why not.

*rem (Roentgen equivalent man)*

The unit of dose equivalent for human radiation exposure. It is equal to the product of the absorbed dose in rads and a quality factor.

*Resource Conservation and Recovery Act*

The Act that provides a "cradle to grave" program for hazardous waste, which established, among other things, a system for managing hazardous waste from its generation until its ultimate disposal.

*River Water System*

A system of large concrete pipes built to provide secondary cooling water to the five SRS production *reactors*. The system pumped water from the Savannah River to the reactor areas, where the water passed through *heat exchangers* to absorb heat from the primary reactor core cooling system. Heated discharge water returned to the river via onsite streams.

*sanitary waste*

See *waste classifications*.

*spallation*

A nuclear reaction in which the energy of the incident particle is so high that when it strikes the target nucleus, more than two or three particles are ejected from the target nucleus, and both its mass number and atomic number are changed.

*special case waste*

See *waste classifications*.

*special nuclear materials*

Plutonium, uranium-233, uranium enriched in the isotope 233 or 235, and any other material DOE determines to be special nuclear material.

*spent nuclear fuel*

Fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated.

*sulfur dioxide*

A heavy, pungent, toxic gas, used as a preservative or refrigerant, that is a major air pollutant.

*superconducting*

Exhibiting a complete disappearance of electrical resistance in various metals at temperatures near absolute zero.

*Superfund*

A trust fund established by the Comprehensive Environmental Response, Compensation, and Liability Act and amended by the Superfund Amendment and Reauthorization Act that finances long-term remedial action for hazardous waste sites.

*supply*

For this EIS, the production of tritium in a reactor or an accelerator and the subsequent extraction of the tritium in pure form for use in weapons.

*target*

In broad terms, a tube, rod, or other form containing material that, on being irradiated in a *nuclear reactor* or an *accelerator* would produce a desired end product.

*tier*

To link to another in a hierarchical chain. An upper-tier document might be programmatic to the entire DOE complex of sites; a lower-tier document might be specific to one site or process.

*total particulate matter*

Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog found in air or emissions.

*tritium*

A *radioactive isotope* of hydrogen and an essential component of every warhead in the current and projected U.S. nuclear weapons stockpile. The tritium enables warheads to perform as designed.

*Tritium Extraction Facility*

A proposed facility at the Savannah River Site that would extract tritium from *target* material irradiated in either an *accelerator* or a commercial light-water *reactor*.

*Tritium Loading Facility (formerly known as Replacement Tritium Facility)*

Underground SRS facility in which gases are drawn off of weapons, separated and purified into useful hydrogen isotopes (tritium), mixed to exact specifications, and reloaded into the reservoirs.

*Tritium Producing Burnable Absorber Rods (TPBARS)*

A highly radioactive target rod which contains recoverable tritium after irradiation in a reactor.

*Tritium Separation Facility*

A portion of the proposed APT at the Savannah River Site that would separate hydrogen isotopes (protium, deuterium, and tritium) from helium using metal getter beds that would absorb hydrogen while allowing helium to pass through, and would separate tritium from the other hydrogen isotopes using cryogenic distillation.

*uninvolved worker*

For this EIS, an SRS worker who is not involved in the operation of the *accelerator*, and who is assumed to be at least 640 meters from the point of release.

*volatile organic compound*

An organic compound with a vapor pressure greater than 0.44 pound per square inch at standard temperature and pressure.

*waste classifications*

Waste products are defined by statutes and DOE Orders based on origin, content, type of hazard and magnitude of hazard. In this document, the description of waste products may include the following definitions:

*greater-than-Class-C waste*

Low-level radioactive waste that is generated by the commercial sector and that exceeds U.S. Nuclear Regulatory Commission concentration limits for Class-C Low-Level Radioactive Waste as specified in 10 CFR Part 61. DOE is responsible for the disposal of Greater-Than-Class-C wastes from the DOE Nondefense Program. (Note: This term applies only to radioactive waste under the authority of the U.S. Nuclear Regulatory Commission and is included in this EIS only for clarity.)

*hazardous waste*

Waste (solid, semisolid, or liquid) with the characteristics of ignitability, corrosivity, toxicity, or reactivity, as defined by the Resource Conservation and Recovery Act and identified or listed in 40 CFR 261 or the Toxic Substances Control Act.

*high-level waste*

The highly *radioactive* wastes that result from the chemical processing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid waste derived from the liquid. High-level waste contains a combination of transuranic waste and fission products in concentrations requiring permanent isolation.

*low-level waste*

Radioactive waste not classified as *high-level waste*, transuranic waste, *spent nuclear fuel*, or byproduct material.

*mixed waste*

Waste material that contains both *hazardous waste* and *radioactive* source, special nuclear, or byproduct material (subject to the Atomic Energy Act of 1954).

*sanitary waste*

Solid waste that is neither hazardous as defined by the *Resource Conservation and Recovery Act* nor *radioactive*; sanitary waste streams include paper, glass, discarded office material, and construction debris.

*special case waste*

A temporary waste classification defined in DOE Order 5820.2A, "Radioactive Waste Management," but eliminated from Draft DOE Order 435.1. Waste in this temporary classification must be evaluated to determine appropriate burial requirements.

*water quality standards*

Provisions of Federal or state law that consist of a designated use or uses for the waters of the United States and water quality standards for such waters based on their uses. Water quality standards are used to protect the public health or welfare, enhance the quality of water, and serve the purposes of the Clean Water Act.

*wetlands*

Land exhibiting the following: hydric soil conditions, saturated or inundated soil during some portion of the year, and plant species tolerant of such conditions; also, areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

## **DISTRIBUTION LIST**

DOE is providing copies of the final EIS to Federal, state, and local elected and appointed officials and agencies of government; Native American groups; Federal, state, and local environmental and public interest groups; and other organizations and individuals listed below. Copies will be provided to other interested parties upon request.

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## **A. UNITED STATES CONGRESS**

### **A.1 SENATORS FROM AFFECTED AND ADJOINING STATES**

The Honorable Max Cleland  
United States Senate

The Honorable Ernest F. Hollings  
United States Senate

The Honorable Paul Coverdell  
United States Senate

The Honorable Strom Thurmond  
United States Senate

### **A.2 UNITED STATES SENATE COMMITTEES**

The Honorable Mary L. Landrieu  
Ranking Minority Member  
Subcommittee on Strategic Forces  
Committee on Armed Services

The Honorable Harry Reid  
Ranking Minority Member  
Subcommittee on Energy and Water  
Development  
Committee on Appropriations

The Honorable Robert C. Byrd  
Ranking Minority Member  
Committee on Appropriations

The Honorable Robert Smith  
Chairman  
Subcommittee on Strategic Forces  
Committee on Armed Services

The Honorable Pete V. Domenici  
Chairman  
Subcommittee on Energy and Water  
Development  
Committee on Appropriations

The Honorable Ted Stevens  
Chairman  
Committee on Appropriations

The Honorable Carl Levin  
Ranking Minority Member  
Committee on Armed Services

The Honorable John Warner  
Chairman  
Committee on Armed Services

### **A.3 UNITED STATES HOUSE OF REPRESENTATIVES FROM AFFECTED AND ADJOINING STATES**

The Honorable James E. Clyburn  
U.S. House of Representatives

The Honorable Charlie Norwood  
U.S. House of Representatives

The Honorable Nathan Deal  
U.S. House of Representatives

The Honorable Mark Sanford  
U.S. House of Representatives

The Honorable Lindsey Graham  
U.S. House of Representatives

The Honorable Floyd Spence  
U.S. House of Representatives

The Honorable Jack Kingston  
U.S. House of Representatives

The Honorable John M. Spratt, Jr.  
U.S. House of Representatives

The Honorable Cynthia McKinney  
U.S. House of Representatives

#### **A.4 UNITED STATES HOUSE OF REPRESENTATIVES COMMITTEES**

The Honorable Peter Visclosky  
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Subcommittee on Energy and Water  
Development  
Committee on Appropriations

The Honorable Duncan L. Hunter  
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Subcommittee on Military Procurement  
Committee on Armed Services

The Honorable C.W. Bill Young  
Chairman  
Committee on Appropriations

The Honorable Floyd Spence  
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Committee on Armed Services

The Honorable Ron Packard  
Chairman  
Subcommittee on Energy and Water  
Development  
Committee on Appropriations

The Honorable David Obey  
Ranking Minority Member  
Committee on Appropriations  
U.S. House of Representatives

The Honorable Ike Skelton  
Ranking Minority Member  
Committee on Armed Services

#### **B. FEDERAL AGENCIES**

Mr. Don L. Klima  
Director, Office of Planning & Review  
Advisory Council on Historic Preservation

Mr. Robert Fairweather  
Chief, Environmental Branch  
Office of Management and Budget

Mr. John Bellinger  
NEPA Coordinator  
Office of Environmental Policy  
U.S. Army Corps of Engineers

Ms. Jane Bobbitt  
Assistant Secretary  
Legislative and Intergovernmental Affairs  
U.S. Department of Commerce

Mr. Kenneth W. Holt  
Centers for Disease Control and Prevention  
National Center for Environmental Health  
U.S. Department of Health and Human Services

Mr. Douglas H. Chapin  
Richland Operations Office  
U.S. Department of Energy

Mr. Willie R. Taylor  
Director  
Office of Environmental Policy & Compliance  
U.S. Department of Interior

Mr. Heinz Mueller  
Office of Environmental Policy & Compliance  
U.S. Environmental Protection Agency

Mr. Jon Richards  
Region IV  
U.S. Environmental Protection Agency

Mr. Carl J. Paperiello  
Director  
Nuclear Material Safety Safeguards  
U.S. Nuclear Regulatory Commission

Dr. Libby Stull  
Argonne National Laboratory

Major General R. M. Bunker  
Division Engineer  
South Atlantic Division  
U.S. Army Corps of Engineers

Mr. Ken Clark  
Region II Public Affairs Officer  
U.S. Nuclear Regulatory Commission

Mr. Jeff Crane  
U.S. Environmental Protection Agency  
Region IV  
SRS Remedial Project Manager

Mr. Joseph R. Franzmathes  
Assistant Regional Administrator  
Office of Policy and Management  
U.S. Environmental Protection Agency  
Region IV

Mr. Waynon Johnson  
Coastal Resource Coordinator  
National Oceanic and Atmospheric  
Administration

Mr. William Yeniscavich  
Defense Nuclear Facility Safety Board

Mr. Tam Tran  
U.S. Department of Energy

Mr. Greer C. Tidwell  
Administrator  
U.S. Environmental Protection Agency  
Region IV

Ms. Camilla Warren  
Chief DOE Remedial Section  
U.S. Environmental Protection Agency  
Region IV

Mr. Jeffrey M. Steele  
Office of Naval Reactors, NE-60  
U.S. Department of Energy

Mr. Micahel Jansky  
WM Hanford

Ms. Debbie Nielsen  
BWHC

Mr. Tony Mandell  
Los Alamos National Laboratory

Ms. Ann Pendergrass  
Los Alamos National Laboratory

## **C. STATE OF SOUTH CAROLINA**

### **C.1 STATEWIDE OFFICES AND LEGISLATURE**

The Honorable Jim M. Hodges  
Governor of South Carolina

The Honorable Bob Peeler  
Lieutenant Governor of South Carolina

The Honorable Charles Condon  
Attorney General

Ms. Omega Burgess  
Office of the State Budget

The Honorable John Matthews, Jr.  
South Carolina Senate

The Honorable Addison J. Wilson  
South Carolina Senate

The Honorable Thomas S. Beck  
South Carolina House of Representatives

The Honorable Wilbur L. Cave  
South Carolina House of Representatives

The Honorable William Cylburn  
South Carolina House of Representatives

The Honorable Charles R. Sharpe  
South Carolina House of Representatives

The Honorable Rudy Mason  
South Carolina House of Representatives

The Honorable Thomas N. Rhoad  
South Carolina House of Representatives



## **C.2 STATE AND LOCAL AGENCIES AND OFFICIALS**

Mr. Russell Berry  
South Carolina Department of Health and  
Environmental Control

Ms. Ann Clark  
Federal Facility Liaison  
Environmental Quality Control  
South Carolina Department of Health and  
Environmental Control

Mr. G. Kendall Taylor  
Division of Hydrogeology  
Bureau of Land and Hazardous Waste  
Management  
South Carolina Department of Health and  
Environmental Control

Mr. Aulie F. Kelley  
Beaufort-Jasper Water & Sewer Authority

Ms. Myra Reece  
Director  
Lower Savannah District Office  
South Carolina Department of Health and  
Environmental Control

Ms. Kim Newell  
Public Information Director  
South Carolina Department of Health and  
Environmental Control

## **D. STATE OF GEORGIA**

### **D.1 STATEWIDE OFFICES AND LEGISLATURE**

The Honorable Roy Barnes  
Governor of Georgia

The Honorable Donald E. Cheeks  
Georgia Senate

The Honorable Mark Taylor  
Lieutenant Governor of Georgia

The Honorable Eric Johnson  
Georgia Senate

The Honorable Thurbert Baker  
Attorney General

The Honorable Hugh M. Gillis, Sr.  
Georgia Senate

The Honorable Charles W. Walker  
Georgia Senate

### **D.2 STATE AND LOCAL AGENCIES AND OFFICIALS**

Program Manager  
Surface Water Supply  
Georgia Department of Natural Resources

Tripp Reid  
Administrator  
Georgia State Clearinghouse  
Office of Planning and Budget

Mr. James C. Hardeman, Jr.  
Environmental Radiation Programs  
Environmental Protection Division  
Georgia Department of Natural Resources

**E. NATURAL RESOURCE TRUSTEE, SAVANNAH RIVER SITE**

Mr. Douglas L. Novak  
SRS Natural Resource Trustee  
South Carolina Office of the Governor

Mr. James Setser  
Chief, Program Coordinator Branch  
SRS Natural Resource Trustee  
Department of Natural Resources

Mr. Douglas E. Bryant  
Commissioner  
SCDHEC  
Natural Resources Trustee  
Savannah River Site

Mr. A. B. Gould  
Director  
SRS Natural Resource Trustee  
DOE-SR Environmental Quality Management  
Division

Mr. David Holroyd  
SRS Natural Resource Trustee  
U.S. Environmental Protection Agency  
Region IV

Mr. Ronald W. Kinney  
SRS Natural Resource Trustee  
SCDHEC Waste Assessment and Emergency  
Response

Ms. Denise Klimas  
SRS Natural Resource Trustee  
National Oceanic and Atmospheric  
Administration  
c/o USEPA Waste Division

Mr. James H. Lee  
Regional Environmental Officer  
SRS Natural Resource Trustee  
U.S. Department of the Interior

Mr. Paul A. Sandifer  
Director  
SRS Natural Resource Trustee  
South Carolina Department of Natural  
Resources

**F. NATIVE AMERICAN GROUPS**

The Honorable Gilbert Blue  
Chairman  
Catawba Indian Nation

The Honorable Bill Fife  
Principal Chief  
Muscogee (Creek) Nation

**G. ENVIRONMENTAL AND PUBLIC INTEREST GROUPS**

Mr. Bill Cunningham  
Economist  
Department of Public Policy  
AFL-CIO

Ms. Karen Patterson  
SRS Citizens Advisory Board

Mr. Paul Schwartz  
National Campaigns Director  
Clean Water Action

Dr. Mildred McClain  
Citizens for Environmental Justice, Inc.

Mr. Joseph Goffman  
Capital Office  
Environmental Defense Fund, Inc.

Mr. Fred Krupp  
Executive Director  
National Headquarters  
Environmental Defense Fund, Inc.

Dr. Brent Blackwelder  
President  
Friends of the Earth

Mr. Tom Clements  
Nuclear Control Institute

Ms. Sharon Lloyd-O'Connor  
Manager, Energy Programs  
League of Women Voters

Mr. David Bradley  
National Community Action Foundation

Mr. Alex Echols  
Deputy Director  
National Fish and Wildlife Foundation

Ms. Tamar Osterman  
Director of Government Affairs  
Department of Law & Public Policy  
National Trust for Historic Preservation

Mr. Thomas Donnelly  
Executive Vice President  
National Water Resources Association

Mr. Mark Van Putten  
President & Chief Executive Officer  
National Wildlife Foundation

Dr. Thomas V. Cochran  
Director, Nuclear Programs  
Natural Resources Defense Council

Mr. Brad Morse  
Alliance for Nuclear Accountability

Mr. David Becker  
The Sierra Club

Dr. Christopher Paine  
Research Analyst  
Natural Resources Defense Council

Mr. Bob Tiller  
Director of Security Programs  
Physicians for Social Responsibility

Ms. Joy Oakes  
Regional Staff Director  
Appalachian Office  
The Sierra Club

Mr. Tom Zamora Collina  
Director of Arms Control Project  
Union of Concerned Scientists

Ms. Diane Jackson  
Administrative Assistant  
Ecology and Economics Research Department  
The Wilderness Society

Dr. Paul Levanthal  
President  
Nuclear Control Institute

Dr. Ed Lyman  
Scientific Director  
Nuclear Control Institute

Mr. Robert Holden  
Director, Nuclear Waste Programs  
National Congress of American Indians

Ms. Rebecca Charles  
Tennessee Department of Environment and  
Conservation

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**H. OTHER GROUPS AND INDIVIDUALS**

Mr. Tom Anderson  
Battelle

Mr. Sy Baron  
MUSC

Ms. Sonya Barnette

Mr. Peter K. Baumgarten

Mr. Chuck Bernhard

Mr. Edward P. Blanton, Jr.

Edmund D. Boothe  
Aiken Technical College

Ms. Elizabeth R. Brown  
Charleston Deanery  
South Carolina Council of Catholic Women

Ms. Nancy S. Bryant

Mr. Roy Carter

Mr. George R. Caskey

Dr. Lawrence Chase

Dr. John C. Chen  
Department of Chemical Engineering  
Lehigh University

Mr. John P. Clemmens  
Stone & Webster

Ms. Susan A. Dagg  
School of Planning  
Oxford Brookes University

Mr. John Dimarzio

Mr. John F. Doherty, JD

Mr. Carter B. Ficklen

Ms. Mary Flora

Mr. Melvyn P. Galin

Mr. Don Gordon  
WSRC

Mr. Anthony P. Gouge

Mr. Peter L. Gray

Mr. Jan Hagers

Mr. Glen T. Hanson

Mr. Harry D. Harmon  
M4 Environmental

Mr. Charles H. Harris

Ms. Mary Hassell  
TetraTech

Ms. Shelley Hawkins  
Jacobs Engineering Group, Inc.

Mr. Cliff Jarman

Mr. Roy Karimi

Mr. Robert J. Kennedy  
Medical University of South Carolina  
Department of Biometry Epidemiology

Ms. Candace Kilchenman

Mr. Marvin Lewis

Mr. Thomas L. Lippert

Dr. William A. Lochstet  
Physics Department  
University of Pittsburgh at Johnstown

Ms. Karen Lowrie	Mr. William Reinig
Mr. Robert R. Lowrie	Ms. Essie M. Richards Carver Heights Community Org.
Mr. Robert Maher	Mr. Mitch C. Richards WSRC
Mr. Steve Maheras	
Mr. Bob Matthews	Ms. Dorene L. Richardson
Mr. William P. Mayson	Dr. Ray K. Robinson Ray K. Robinson, Inc.
Mr. Neal McCraw Duke Engineering & Services	Mr. Charles E. Sessions
Dr. William R. McDonell	Mr. John O. Shipman
Ms. Sherry A. McGaha	Mr. Daniel W. Smith
Mr. Russell Messick	Mr. Don Solki Carpenter's Local 283
Mr. Frank Metz	Mr. Edward S. Syrjala
Mr. John B. Meyers B&W NESI	Mr. James W. Terry Oak Ridge National Laboratory Lockheed Martin Energy Research
Mr. George M. Minot	
Mr. Jim M. Morrison	Ms. Linda VanSickle Exploration Resources
Dr. David L. Moses	Mr. Bruce Verhaaren Environmental Assessment Division Document Retrieval Center Argonne National Laboratory
Mr. Fred Nadelman	
Mr. R. I. Newman	Mr. M. W. Villemain
Mr. Peter L. Nowacki WSRC	Ms. Melissa Vrana Project Performance Corporation
Ms. Lucille Ozkardesh BREI	Mr. Robert J. Weiler Babcock & Wilcox
Mr. Aris Papadopoulos	
Dr. Ruth Patrick Division of Limnology and Ecology Academy of Natural Sciences of Philadelphia	Mr. Kim Welsch
Mr. W. Lee Poe	

Dr. F. Ward Whicker  
Radiological Health Services  
Colorado State University

Mr. Robert H. Wilcox

Ms. Jermetia L. Williams

Mr. Mel Woods

Mr. Bob Worth  
SAIC

Dr. Abe Zeitoun  
SAIC

Mr. Francis P. Zera  
The Georgia Guardian

Ms. Reba White  
Teledyne Brown Engineering

Mr. John Williams  
SAIC

## I. READING ROOMS AND LIBRARIES

Ms. Felicia Yeh  
Technical Services Librarian  
South Carolina State Library

SRS Library

Ms. Judy Smith  
Monographs Acquisition Services

Mr. Michael Simpson  
Library of Congress

Freedom of Information Public Document Room  
University of South Carolina at Aiken

Freedom of Information Reading Room  
US Department of Energy

Los Alamos Technical Association

The Libraries  
Colorado State University

Parson Brinckerhoff Library

McCain Library at Erskine College

Public Reading Room  
Chicago Operations Office

Mr. Kenneth Coleman  
Librarian  
Orangeburg County Free Library

WSRC Library

Pullen Public Library

Reese Library  
Augusta College

Georgia Institute of Technology Library

National Atomic Museum

FOIA Reading Room

Charleston County Library

Public Reading Room  
Oak Ridge Operations Office

Argonne National Laboratory Technical Library